

**REMARKS**

Claims 1-2 and 11 are currently pending in the present application, with claims 1 and 11 being written in independent form. No claims are being amended.

**Claim Rejections under 35 U.S.C. § 103**

Claims 1-2 and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 2001-221908 (Furuya-JP)<sup>1</sup> in view of US 6,184,403 (Welch). Applicants respectfully traverse this rejection for the reasons below.

**Principles of Law**

The obviousness inquiry must be approached from the correct temporal and objective perspectives. "Determinations of obviousness *cannot* be based on the hindsight combination of components *selectively* culled from the prior art to fit the parameters of the patented invention." *Crown Operations Int'l, Ltd. v. Solutia, Inc.*, 289 F.3d 1367, 1376 (Fed. Cir. 2002). The decision maker must step back in time to before the moment of actual invention, and out of the actual inventor's shoes into those of a hypothetical, ordinary skilled person who has *never* seen the invention. *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553 (Fed. Cir. 1983). The legal question is whether, in light of the differences between the invention and the prior art, and all relevant facts, the invention would have been obvious at *that* time to *such* a person. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1566-1568 (Fed. Cir. 1987).

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<sup>1</sup> The corresponding English disclosure of Furuya-JP may be found in US 6,514,628 (Furuya-US).

Additionally, the proposed modification *cannot* render the prior art unsatisfactory for its intended purpose. *MPEP* 2143.01. If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is *no* suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

No Motivation to Modify Cited Art in the Manner Asserted by Examiner

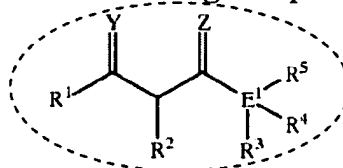
The Examiner concedes that Furuya suffers from various deficiencies but nevertheless asserts that "it would be obvious to a skilled artisan to modify Furuya by employing the organic ligands and anions suggested by Welch." *Final Office Action* (10/29/2008): p. 3, ln. 6-7.

The Examiner appears to allege that, because Furuya teaches an alloy and Welch teaches a metal complex defined by  $ML_n \cdot pD$  (wherein M is a metal), it would have been obvious for one of ordinary skill to complex the alloy of Furuya with at least compound L of Welch. *Final Office Action* (10/29/2008): p. 2-3, section 2.

**Furuya**  
Alloy (e.g., AgPdCu)



**Welch**  
 $ML_n \cdot pD$   
M is a metal  
L is the following compound:



n is equal to the valence of M  
p is 0 or an integer from 1 to 6  
D is a neutral coordinating ligand

We respectfully disagree with the Examiner's rationale for the reasons below. As a preliminary matter, Furuya explains that silver (Ag) is well-regarded as a material

for reflectors in illumination equipment because of its “high reflection factor.” *Furuya-US*<sup>2</sup>: col. 1, ln. 33-36. In particular, it is known by those of ordinary skill in the art that, among metals, Ag has the highest optical reflectivity. However, Ag is susceptible to various reactions (e.g., xanthation, oxidation) that “cause its reflection factor to be reduced” when exposed to the environment over time, thus ultimately rendering an Ag reflector “hardly applicable to illumination equipment.” *Furuya-US*: col. 1, ln. 37-50.

As a result, Furuya discloses an Ag alloy for the reflective film 3 of a vehicle-mounted lamp 4 (e.g., head lamp) that maintains the “superior high reflection factor of Ag” while improving its weatherability. *Furuya-US*: FIGS. 1A-1B; Abstract; col. 2, ln. 44-52; col. 4, ln. 5-7, 50-56; col. 5, ln. 11-16; col. 6, ln. 35-37; col. 8, ln. 32-33; col. 9, ln. 6-20. Furuya teaches that the Ag alloy is a “three-element alloy” that includes Ag as the major component (94-99.4 wt %), Pd as the second component (0.5-3.0 wt %), and Al, Au, Pt, Cu, Ta, Cr, Ti, Ni, Co, or Si as the third component (0.1-3.0 wt %). *Furuya-US*: Abstract; col. 2, ln. 54-58; col. 3, ln. 50-54; col. 9, ln. 8-12; Tables 1-3.

Thus, it is important to note that the resulting alloy of Furuya must have a relatively high optical reflectivity to serve as a suitable material for the reflective film 3 of a vehicle-mounted lamp 4. For this reason, Furuya teaches including (at a minimum) 94 wt % of Ag in the alloy, while including (at a maximum) 6 wt % of the second and third components to improve the weatherability of the alloy. *Furuya-US*: Abstract; col. 2, ln. 60-63; col. 4, ln. 14-19. Because the second and third components are also metals/metalloids having recognized reflective properties, the alloy is able to maintain the “superior high reflection factor” of Ag while possessing

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<sup>2</sup> Furuya-US (US 6,514,628) is the corresponding English-language application of Furuya-JP (JP 2001-221908).

improved weatherability. *Furuya-US*: col. 4, ln. 5-12, 50-56; col. 6, ln. 30-39; col. 9, ln. 6-20.

On the other hand, complexing the metals of *Furuya* with the organic compounds of Welch would essentially *nullify* the reflective properties of the alloy of *Furuya*. For instance, a review of the L compound (illustrated above) of the  $ML_n \cdot pD$  complex of Welch clearly reveals that the L compound is predominantly composed of *nonmetals* that do *not* have recognized reflective properties (e.g., carbon, hydrogen, nitrogen, oxygen, sulfur, halogens). *Welch*: col. 2, ln. 33-67. Similarly, a review of the D compound of the  $ML_n \cdot pD$  complex of Welch clearly reveals that the D compound is also predominantly composed of *nonmetals* that do *not* have recognized reflective properties (e.g., carbon, hydrogen, phosphorous). *Welch*: col. 2, ln. 33, 41; col. 5, ln. 24-32. Thus, not only would the Examiner's proposed complex introduce *nonmetals* (that do not have recognized reflective properties) into the alloy of *Furuya*, a brief assessment of compounds L and D clearly suggests that the proposed complex would also reduce the amount of Ag in the alloy to a *mere fraction* of the *minimum* 94 wt % Ag taught by *Furuya*.

Furthermore, *Furuya* clearly teaches that the reaction of Ag with various elements in the atmosphere (e.g., sulfur, chlorine, oxygen) will "cause its reflection factor to be reduced," thus rendering the resulting Ag "hardly applicable to illumination equipment." *Furuya-US*: col. 1, ln. 33-53. Thus, the Examiner's proposed modification to complex the organic compounds of Welch (which contain, e.g., sulfur, chlorine, oxygen) with the alloy of *Furuya* (which is at least 94 wt % Ag) would actually *undermine* the alloy of *Furuya* by *promoting* the deterioration of its reflective properties.

As noted above, the proposed modification *cannot* render the prior art *unsatisfactory* for its intended purpose. MPEP 2143.01. If the proposed modification would render the prior art invention being modified *unsatisfactory* for its intended purpose, then there is *no* suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Thus, although the Examiner has proposed the *selective* modification of the alloy of Furuya with the organic compounds of Welch in an attempt to meet the parameters of the examined claims, the Examiner *cannot* establish a *prima facie* case of obviousness. One of ordinary skill in the art at the time of the invention (*who has never seen the invention*) would *not* have been motivated to start with the Ag reflector alloy of Furuya only to perform modifications asserted by the Examiner that would essentially render the modified alloy unsuitable for use as a reflective film in a vehicle-mounted lamp.

For at least the reasons above, a *prima facie* case of obviousness cannot be established with regard to claims 1 and 11. Consequently, a *prima facie* case of obviousness cannot be established with regard to claim 2, at least by virtue of its dependency on claim 1. Accordingly, Applicants respectfully request the Examiner to reconsider and withdraw the above rejection.

**Comments on the Examiner's 10/29/2008 "Response to Arguments"**

On a further note and without conceding as to the propriety of any of the Examiner's positions that are not specifically addressed herein, Applicants would like to emphasize the following. The Examiner asserts that "Furuya complexes the metallic complexes with the organic base composition film 8 (to form the layer 3) on the

substrate to form the organometallic composition layer.” *Final Office Action* (10/29/2008): p. 3, last line – p. 4, ln. 2. Applicants respectfully disagree.

The reflective film 3 is merely an *alloy* layer that is disposed on an organic ground film 8 to ensure that the reflective film 3 properly adheres to the substrate 2. *Furuya-US*: FIG. 2; col. 8, ln. 42-45. Although the Examiner can give the pending claims their broadest reasonable interpretation (*MPEP* 2111) during examination, it is important to note that the broadest reasonable interpretation of the claims must still be consistent with the interpretation that those skilled in the art would reach. *In re Cortright*, 165 F.3d 1353, 1359, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999). One of ordinary skill in the art would *not* interpret the reflective film 3 and/or the organic ground film 8 as an “*organometallic* compound,” as recited by independent claims 1 and 11, at least for the simple fact that the organic groups of the ground film 8 do *not* form chemical bonds (which involve the formal donation of electrons) with the metal atoms of the reflective film 3.

The Examiner also asserts that Welch discloses a “neutral ligand” by virtue of Y and Z being disclosed as having “the formula  $NR^9$  wherein  $R^9$  is an alkyl.” *Final Office Action* (10/29/2008): p. 4, ln. 11-15. Applicants respectfully disagree.

Those of ordinary skill in the art readily understand that a ligand is an atom, ion, or molecule that binds to a central *metal* atom. In contrast, Welch clearly teaches that Y and Z are bonded to a carbon atom, which is a *nonmetal*. *Welch*: Formulas I, III. Thus, Welch fails to disclose the “neutral metallic ligand” of independent claims 1 and 11.

**Conclusion**

In view of the above, Applicants respectfully request the Examiner to allow all of the pending claims in the present application.

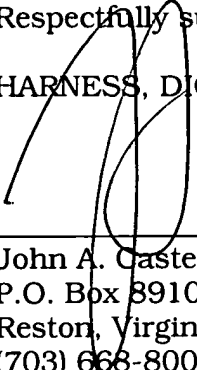
If the Examiner believes that personal communication will expedite the prosecution of this application, then the Examiner is invited to contact the undersigned at the telephone number below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNES, DICKEY, & PIERCE, P.L.C.

By

  
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